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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Identify Disadvantaged Communities in the San Joaquin Valley and Analyze Economically Feasible Options to Increase Access to Affordable Energy in those Disadvantaged Communities. (U 39 M)	Rulemaking 15-03-010

2022 ANNUAL REPORT OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 M)

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Dated: December 19, 2022

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Identify Disadvantaged Communities in the San Joaquin Valley and Analyze Economically Feasible Options to Increase Access to Affordable Energy in those Disadvantaged Communities. (U 39 M)	Rulemaking 15-03-010

2022 ANNUAL REPORT OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 M)

Pacific Gas and Electric Company (PG&E) submits the attached annual report regarding San Joaquin Valley Disadvantaged Communities (SJVDAC) Pilot Program Annual Report (Annual Report) in accordance with Decision (D.) 18-12-015, Ordering Paragraph (OP) 15(g). OP 15(g) directs PG&E and the other California investor-owned utilities to:

> *Serve and file reports detailing their efforts to engage disadvantaged communities in the San Joaquin Valley, including progress in implementation of the pilot projects approved in this decision. The reports shall include information on the Disadvantaged Communities Green Tariff Program, the Community Solar Green Tariff program, the Disadvantaged Communities Solar on Affordable Single-Family Housing Program, the Self-Generation Incentive Program, the California Solar Initiative Thermal program, the Solar on Multifamily Affordable Housing Program, the Energy Savings Assistance Program, the Middle-Income Direct Install program, and the Electric Vehicle Grid Integration Pilot program, including how each program has been leveraged to implement the eleven pilot projects authorized in this decision, or if not leveraged the barriers or basis for not utilizing the program, within one year of the issuance of this decision, and annually thereafter.*[1]

This Annual Report is being filed and served on all parties to Rulemaking (R.) 15-03-010.

[1] D.18-12-015, pp.166-167.

Respectfully Submitted,

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ATTACHMENT

Pacific Gas and Electric Company

San Joaquin Valley Disadvantaged Community Electrification Pilots

2022 Annual Progress Report

December 19, 2022

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Overview (Summary)

Pacific Gas and Electric Company (PG&E) submits this fourth annual report (Report) in compliance with the California Public Utilities Commission (CPUC) Decision (D.) 18-12-015 (Decision), Ordering Paragraph (OP) 15(g) regarding the San Joaquin Valley (SJV) Disadvantaged Communities (DAC) pilot program (Pilot).

In PG&E's service territory, the SJV DAC Pilot is designed to replace propane and wood burning appliances with all electric appliances for qualifying customers within the SJV DAC who do not have access to natural gas service. D.18-12-015 also includes a central objective that participating customers experience energy cost savings.[1]

This Report summarizes PG&E's activities and expenditures, including PG&E's contractors, related to the implementation of three SJV DAC Pilot communities in its service territory and covers the reporting period of November 1, 2021, through October 31, 2022, to meet the submission date mandated by the Decision.

Of the eight SJV DAC Pilot communities located within PG&E service territory, PG&E is the Program Administrator (PA) with a third-party Pilot Implementer (PI) for three pilot communities (Allensworth, Cantua Creek, and Seville) and a third-party vendor is the Program Administrator/Pilot Implementer (PA/PI) for the remaining five pilot communities (Alpaugh, Fairmead, La Vina, Lanare, and Le Grand).[2] The Third-Party PA/PI will be filing an annual report separate from PG&E.

Highlights of PG&E pilot activity in the reporting period include:

- **Outreach and Engagement:** All Pilot PAs utilize the Community Program Manager (CPM), and Community Energy Navigators (CEN) to conduct the participant outreach, engagement, and enrollment. Enrollment for PG&E Pilot communities formally concluded on November 30, 2021. Following conclusion of the enrollment period an additional eight residents were enrolled through the reporting period. Approximately 68% of contacted households applied to participate in the pilot.
- **Pilot Implementation:** 194 home assessments have been completed and 147 projects have been completed as of October 31, 2022. Excessive remediation was an initial barrier causing a delay in installations; however, external funding was identified allowing for additional homes to be treated. PG&E electrical service upgrades were needed in ~61% of the PG&E Pilot communities to support Pilot electrification, which required additional time to complete prior to installing Pilot appliances.
- **Program Leveraging:** The pilot has achieved some positive results when it comes to leveraging other programs. Aside from DAC-GT and the bill credits associated with the pilot, many residents were already taking advantage of other available bill discount programs (such as the California Alternative Rates for Energy Program (CARE) and the Family Electric Rate Assistance Program (FERA)) resulting in fewer participant referrals and enrollments to bill discount programs because of pilot activities. However, many participants have been enrolled in

[1] D. 18-12-015, p. 75.
[2] D.18-12-015, p. 2.

installation programs such as the Energy Savings Assistance Program and Self-Generation Incentive Program.

This report documents the progress of the Pilot for the past year, including successes and challenges. A key part of any pilot is to learn what works and what does not. The SJV DAC Pilots are the first of its kind and challenges are inevitable as all parties learn how to best meet customer needs. PG&E is confident and committed to ensuring that the successes and challenges experienced through the SJV DAC Pilots will be utilized to inform future strategies to increase electrification in economically challenged communities.

Budget and Expenditures

Tables 1 through 4 below outline the authorized budgets associated with the PG&E Pilot, as well as 2022's expenditures and total expenditures for the Pilot to date. The 2022 actual expenses in the tables below are inclusive of actual expenditures until the end of the reporting period. Total Pilot Budget reflects the total funding authorized in D.18-12-015, as summarized in Table 24 of that Decision, but excludes Community Energy Navigator (CEN) Work, Bill Protection, and Transitional Community Solar Discount (TCSD) credits. Actual expenses are those incurred by both PG&E and its contractors under the SJV DAC Balancing Account through October 2022.

Table 1: PG&E Pilot Budget[3] (Inception to end of reporting period)

Budget Category	Authorized Budget	2019 Actual Expenses	2020 Actual Expenses	2021 Actual Expenses	2022 Actual Expenses	Total Actual Expenses	Total % of Budget Spent
Administration Budget Cap	$ 1,689,400	$ 175,062	$ 419,155	$ 521,577	$ 416,302	$ 1,532,096	90.7%
Contingency Budget	$ 1,580,000	$ -	$ -	$ 74,573	$ 230,284	$ 304,858	19.3%
Implementation Budget	$ 6,086,435	$ -	$ 623	$ 1,128,156	$ 2,181,515	$ 3,310,294	54.4%
Total Pilot Budget	**$ 9,355,835**	**$ 175,062**	**$ 419,778**	**$ 1,724,306**	**$ 2,828,101**	**$ 5,147,247**	**55.0%**

The CPM / CEN (Community Energy Navigator line item) budget and expenses are included in Table 2 below. Table 24 of D. 18-12-015 outlines authorized budgets per PA, including separate budgets for the Third-Party PA/PI and PG&E. The Decision also states that "funding from one utility may not be used to pay for CPM or CEN activities in a different utility's service territory."[4] The authorized CPM / CEN budget for PG&E and the Third-Party PA/PI is a combined budget of $505,600 allocating $142,000 to PG&E pilot support and $363,600 to the Third-Party PA/PI pilot support.

Subsequently, the CPM treated the CEN portion of the budgets for the Third-Party PA/PI and PG&E Pilots as a single combined budget of $505,600 rather than two separate budgets of $363,600 and $142,000, respectively. Table 2 shows the PG&E and the Third-Party PA/PI's authorized budget and actual expenditures for CPM and CEN support.

As will be explained later in the Outreach and Enrollment section of this report, the CEN outreach budget for both PG&E's and the Third-Party PA/PI's pilot communities was fully exhausted by the end of 2020, and before the CEN completed their contractual obligations. However, CEN outreach and support activity continued at the CPM's own expense. The expenditure in Table 2 reflects only funding from the authorized budget. Thus, the reported CEN expenditures only reflect what was paid for through the pilot

[3] 2019 Actual Expense include January 2019 to October 2019, 2020 Actual Expense include November 2019 to October 2020, 2021 Actual Expense include November 2020 to October 2021, 2022 Actual Expense include November 2021 to October 2022.

[4] D. 18-12-015, Section 11.3, p. 84

budget and does not account for the additional expenditures paid for by the CPM through external funding to meet their contractual obligations. As a result, these reported costs accurately represent what was paid for through the Pilot budgets, but understate actual costs incurred by the CPM for CPM and CEN support.

Table 2 also reflects costs incurred and or the authorized budget for the Pilot Process Evaluation conducted by Evergreen Economics, Phase III Economic Feasibility study and the Monterey Park Tract assessment.

Table 2: Additional Authorized Budgets (PG&E) (Inception to end of reporting period)

Budget Category	Authorized Budget	2019 Actual Expenses	2020 Actual Expenses	2021 Actual Expenses	2022 Actual Expenses	Total Actual Expenses	Total % of Budget Spent
Community Energy Navigator	$ 505,600	$ -	$ 281,848	$ 219,611	$ 4,141	$ 505,600	100.0%
Community Energy Navigator (PG&E)	*$ 142,000*	*$ -*	*$ 84,541*	*$ 127,657*	*$ 3,466*	*$ 215,664*	*151.9%*
Community Energy Navigator (3rd Party PA/PI)	*$ 363,600*	*$ -*	*$ 197,306*	*$ 91,955*	*$ 675*	*$ 289,936*	*79.7%*
Process Evaluator	$ 112,500	$ -	$ 16,440	$ 59,586	$ 36,474	$ 112,500	100.0%
Economic Feasibility	$ 166,667	$ -	$ -	$ -	$ -	$ -	0.0%
Monterey Park Tract	$ 250,000	$ 198,059	$ 1,903	$ -	$ -	$ 199,963	80.0%

Tables 3 and 4 below provide a community level breakdown of expenditures from Pilot inception to end of this reporting period, as well and the Bill Protection and Transitional Community Solar Discount (TCSD) applied. The contingency line item in the table below accounts for only Pilot funded remediation costs for projects completed by the end of the reporting report, not all remediation costs incurred as of the end of the reporting period as shown in Table 1 above.

The Bill Protection discount and TCSD are administered through PG&E billing. The entirety of Bill Protection and TCSD for PG&E and the Third-Party PA/PI Pilots are managed through PG&E, however Table 4 in this report accounts for PG&E Pilot communities only.

Table 3: Community Level Expenditures (Inception to end of reporting period)

Budget Category	Allensworth	Cantua Creek	Seville	Not Community Specific	Total
Implementation	$ 590,232	$ 942,411	$ 1,356,161	$ 421,490	$ 3,310,294
Home Upgrades	*$ 588,661*	*$ 940,948*	*$ 1,354,762*	*$ -*	*$ 2,884,371*
Service Upgrades	*$ -*	*$ -*	*$ -*	*$ 393,323*	*$ 393,323*
ALOM	*$ -*	*$ -*	*$ -*	*$ 28,167*	*$ 28,167*
WE&T	*$ 1,571*	*$ 1,463*	*$ 1,399*	*$ -*	*$ 4,433*
Contingency (Remediation)	$ 76,729	$ 52,589	$ 101,709	$ -	$ 231,027
Bill Protection (BP) Discount	$ 6,730	$ 9,695	$ 17,782	$ -	$ 34,206
Transitional Community Solar Discount (TCSD)	$ 3,344	$ 2,081	$ 3,453	$ -	$ 8,879

Table 4: Bill Protection and TCSD Budgets (Inception to end of reporting period)

Budget Category	Authorized Budget	2019 Actual Expenses	2020 Actual Expenses	2021 Actual Expenses	2022 Actual Expenses	Total Actual Expenses
Bill Protection Discount	*Not Applicable*	$ -	$ -	$ 4,735	$ 29,471	$ 34,206
TCSD Discount	*Not Applicable*	$ -	$ -	$ 218	$ 8,661	$ 8,879

Non-Pilot Remediation Funding

Through the Pilot, participants can receive up to $5,000 for remediation and minor repair costs for their home, when needed to support the Pilot project. However, several assessed homes had remediation costs greater than $5,000. The CPM initially identified alternative financing options such as zero-percent loans, but residents were not interested in financing of any kind. After no further sources of funding

were found, in Q2 2021 the CPM, created a $100,000 grant offering from their own organization, Self-Help Enterprises (SHE), made available to all PAs. The SHE funding grant allowed for up to an additional $5,000 per home for those with excessive remediation costs.

In addition, representatives of the CPUC's TECH Clean California initiative[5] (TECH) proactively contacted PG&E and Southern California Edison in the summer of 2021 to collaborate on the potential leveraging of TECH funding to help overcome project barriers as well. In anticipation of the CPM's remediation funding becoming fully exhausted, TECH worked with the joint PAs to offer up to $10,000 of remediation funding per home for those with excessive remediation costs. Additionally, in Q2 of 2022 PG&E worked with the Ortiz Group (TECH funding management firm) to obtain authorization for an additional $10,000 of remediation funding per home approved on a case-by-case basis. The TECH funding is in addition to the $5,000 remediation funding per home available through the Pilot. The combination of the CPM and TECH funding for excessive remediation has been instrumental in overcoming the barrier to participation for homes with high remediation costs. There are 26 participants in PG&E's Pilot communities utilizing external funding that would otherwise have been unable to participate. Out of the 26 homes receiving external funding support, 17 homes have been completed during this reporting period.

Implementation

Pilot Timeline

As shown in Table 5 below, community outreach and enrollments began in Q2 2020 and slowly ramped up to a steady pace by the middle of Q3 2020[6]. In coordination with the CPM, PI and PG&E, active outreach was paused toward the end of 2020 and recommenced with a second wave of outreach beginning in Q2 2021. PG&E's deadline for new Pilot applications was November 30, 2021, though new applications were accepted through August 2022.

Most home treatments were expected to be completed by the middle of 2022 as originally proposed in PG&E's Pilot Implementation Plan;[7] however, due to supply chain constraints, permitting issues, the need for additional remediation funding, and construction complexity, installations are now extended into 2023, with expected completion by the end of Q1 2023.

Table 5: Pilot Timeline

Timeline	2020				2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Community Outreach for Enrollments																
Home Assessments																
Home Treatments (Installations)																

[5] Resolution E-5116/R. 19-01-011

[6] 2020 Annual Report of Pacific Gas and Electric Company (U 39 M), Attachment A, p. 5

[7] PG&E San Joaquin Valley Disadvantaged Communities Electric Pilot Implementation Plan, Major Tasks and Timeline, p. 5

Legend	
Customer Outreach: Ramp-Up/Ramp-Down	Customer Outreach: Steady State
Assessments: Ramp-Up/Ramp-Down	Assessments: Steady State
Installations: Ramp-Up/Ramp-Down	Installations: Steady State

Outreach & Enrollment

Community Energy Navigator

By the end of 2020, the CENs had already attempted to contact almost all eligible residents at least once. At that time, PG&E requested that the CENs temporarily pause active outreach to allow time for some projects to be completed to better illustrate the Pilot benefits to community residents. A second wave of outreach began in Q2 2021 to provide residents an additional opportunity to enroll and to capitalize on the organic excitement generated in communities as projects began to be completed. PG&E set an application deadline of November 30, 2021, to provide ample time for all residents to enroll in the Pilot and to support completion of the Pilot project installations by mid-2022.

- **CPM Administration:** In PG&E's 2020[8] and 2021[9] Annual Reports, PG&E noted some challenges with CPM administration. As work progressed from setup and launch to steady-state execution of CEN outreach, CPM administration improved. One continuing area of concern has been CPM's management of the authorized CPM and CEN budget and timeliness of administrative obligations. In late 2020, PG&E, Southern California Gas Company, and Southern California Edison (collectively referred to as the Joint IOUs) became aware that the CEN outreach budget for PG&E and Third-Party PA/PI Pilot communities had been fully exhausted, despite the program contractual obligations being incomplete. This went undetected due to a backlog of several overdue CPM invoices combined with CPM budget forecasts that understated expected spend rates. The Joint IOUs and Third-Party PA/PIs were unaware of the budget situation until outreach funds in the PG&E and Third-Party PA/PI communities had already been nearly fully expended and intervention was too late.

  The CPM continued performing contractual obligations for CEN outreach, enrollment, and engagement activities after expending the contract budget in the PG&E and Third-Party PA/PI Pilot communities and has committed to continue doing so through the remainder of the Pilot. Timely submission of invoices and adherence to CEN provided forecasted spending plan would have provided greater visibility into projected and actual spend rates and would have allowed the Joint IOUs and Third-Party PA/PI an opportunity to collaborate with the CPM to moderate CEN activities to stretch the CEN budget over a longer time period within the PG&E and Third-Party PA/PI Pilot communities.

- **Outreach and Enrollments**: In collaboration with the CPM, the first wave of outreach was paused at the end of 2020 after having attempted to reach most residents in all three pilot communities. Outreach restarted in Q2 2021 in a second wave and continued through the end of the application period (November 30, 2021) to ensure all residents have ample opportunity to participate in the pilot. Although the activities outreach phase has closed, residents continued to

[8] 2020 Annual Report of Pacific Gas and Electric Company (U 39 M), Attachment A, p. 8
[9] 2021 Annual Report of Pacific Gas and Electric Company (U 39 M), Attachment B, p. 6

reach out to the CPM expressing interest in participation. Given the installation delays experience during the reporting period, PG&E allowed new applications to be submitted through to the end of August 2022. CENs successfully contacted 97% of eligible households and completed applications for nearly 60% of households contacted. A summary of reasons for non-participation is outlined in Table 7 of the Assessment and Installation section of this report.

Assessment & Installation

Implementation assessment and installation activities in the reporting period focused primarily on successful electrification of participants' homes. The customer journey from the time of a completed application to the time of a completed project has been lengthier than anticipated on account of multiple factors that included applicant responsiveness, delays with PI hiring and staffing, service upgrade processes, supply chain challenges, and more. Subsequently, from the first completed installation in February 2021 to February 2022 only 49 projects had been completed, which was lower than originally forecasted. Beginning in March 2022, PG&E implemented new processes and established recurring stakeholder meetings to improve communication and streamline installations, which resulted in an additional 98 projects being completed by Oct. 31, 2022.

- **Home Assessments and Home Treatments:** The initial home assessment phase began in 2020 but was paused due to COVID impacts and resumed in mid-2021. As the installs began ramping up in early March 2022 and additional remediation funding was obtained through TECH funding, PG&E requested follow up assessments be performed in the communities of Allensworth and Cantua Creek to validate the initial estimates and scope, as well as identify feasibility for electric-to-electric service should full electrification not be feasible.

- **In-Front-of-the-Meter Electric Service Upgrades:** Throughout the reporting period electrical service upgrades most commonly found are transformer, secondary wire and service drop upgrades; upgrade of underground conductor; and/or installation or upgrade of underground conduit. These types of upgrades, especially underground construction work, have shown to be extensive and require construction permits from local jurisdictions. Subsequently, they have taken months to complete. The propensity of needing electric service upgrades varies from community to community, as ~61% of participating homes in PG&E's Pilot communities and ~21% (as of the reporting period) in the Third-Party PA/PI pilot communities require service upgrades.

  PG&E's program management team worked extensively with internal partners to continuously find ways to reduce electric service upgrade timelines while still ensuring that PG&E's equipment is able to safely support the new electric load resulting from the pilot appliances being installed. Learnings from these efforts have been highly instructive to both internal and external parties engaged in building and transportation electrification. Several lessons relevant to the SJV DAC Pilot and future electrification program design are outlined in the Lessons Learned section of this report.

Table 6 below provides an overview of pilot progress from the inception of the program to the end of this reporting period from outreach through project completions.

Table 6: Summary of Pilot Progress (Inception to end of reporting period)

Pilot Community	# of Eligible Households (HH)	# of HH Contacted by CENs	# of Applications Completed	# of Assessments Completed	# of Projects In Progress	# of Projects Completed
Allensworth	106	97	65	54	1	37
Cantua Creek	106	106	74	66	8	50
Seville	104	104	75	74	2	60
Total	**316**	**307**	**214**	**194**	**11**	**147**

Table 7a and 7b below provides a summary of the reasons why residents who were contacted and or enrolled did not participate in the pilot from the inception of the program to the end of this reporting period. Table 7a shows non-participants prior to enrollment including residents and landlords (when applicable) who CENs attempted to reach multiple times through various outreach methods but were unreachable. Table 7b reflects the PI tracking of non-participants post enrollment.

Table 7a: Summary of Non-Participations (Inception to end of reporting period)

Reason	Allensworth	Cantua Creek	Seville	Total
HH Resident / Owner Not Interested	26	13	3	**42**
Landlord Refuses to Authorize	10	6	8	**24**
Resident Not Available or Unreachable	6	20	11	**37**
Home is Vacant	10	4	4	**18**
Total	**52**	**43**	**26**	**121**

Table 7b: Summary of Non-Participations (Inception to end of reporting period)

Reason	Allensworth	Cantua Creek	Seville	Total
Unable to serve (i.e. excessive remedation, unsurmountable obstructions, does not qualify for electric to electric appliance upgrade)	4	3	0	**7**
Appliances are Newly Purchased	1	0	0	**1**
Moving Out	3	4	5	**12**
Prefers Propane Appliances	1	1	1	**3**
Unreachable After Mulitple Attempts	8	3	2	**13**
Deferral (hazardous conditions)	2	1	2	**5**
Unpermitted Structure	0	0	1	**1**
Not Interested post enrollment	3	1	1	**5**
Other	4	4	2	**10**
Total	**26**	**17**	**14**	**57**

Many residents and landlords did not provide a reason why they declined to participate. But of those that did, some of the more common reasons were:

- Prefer to keep current appliances / already has newer appliances
- Prior negative experience with other programs
- Landlord does not like the 5-year term of the tenant protection agreement

There have been several challenges associated with Pilot implementation, some of which are resolved but still noted for the benefit of future program design efforts.

- **Remediation Funding Cap:** Through the pilot, participants can receive up to $5,000 for remediation and minor repairs to their home when needed to support the pilot project. As mentioned earlier in the Non-Pilot Remediation Funding section of this report, the PA's success in identifying and leveraging additional funds through the TECH program has been instrumental to the success of the Pilot.

- **Mobile Home Permits & Remediation:** An unforeseen barrier was discovered in Q1 of 2021 as the PIs began requesting permits from the California Department of Housing and Community Development (HCD) for mobile homes. The permit application requests information obtained from a mobile home's certificate of title. However, most mobile-home owners in the Pilot communities did not have a current certificate of title, preventing the PI from being able to provide all the information needed in the permit application. Without a permit, the Pilot projects were not able to move forward.

  To remedy this situation, the PAs, PIs, and CPM worked closely with HCD to understand the process of obtaining an updated certificate of title and to help residents through that process. The HCD process was lengthy and was expected to result in significant costs to the resident in most cases due to back-registration and taxes (not covered by the Pilot), creating another barrier. However, in Q3 2021 the CPUC engaged HCD directly and coordinated a meeting with HCD, CPUC, CPM, PAs, and PIs during which HCD agreed to be flexible with the building permit application in such a way that information from the certificate of title would not be required for Pilot projects, thus removing this specific barrier for nearly two dozen projects in PG&E's pilot communities. Nevertheless, this resolution was not as straight-forward as anticipated. Without the information from the certificate of title, HCD instead required different information about the mobile home that required additional data collection at the home. In partnership and with support from the CPM and CENs, the additional data was collected resulting in certificates being issued beginning Q1 of 2022 allowing for mobile homes to begin pilot treatments.

  Additional barriers identified for mobile homes include the amount of remediation needed to accommodate the pilot offered appliances and the trenching needs to support panel and distribution service upgrades needed to support the additional load. With the additional funding from TECH, PG&E has been able to cover remediation costs and service more mobile homes in the PG&E Pilot communities.

- **Impacts of the Pandemic on the Supply Chain:** COVID-19 has had a major impact on many manufacturers, which has had a downstream impact on product availability for the Pilot. Some products (specifically appliances) were not available or required a long lead time to receive. This supply chain barrier subsequently impacted project timelines if the needed appliances were not available or in stock. In addition to appliances, this also severely impacted the availability of 200-amp main service electrical panels, and battery storage products for leveraged SGIP projects, thereby delaying the installation of battery storage in pilot projects.

  As supply chain constraints continued through the reporting period impacting the timeliness of installations, PG&E worked with the PI to set purchase agreements with numerous suppliers and set up pre-purchasing agreements. The implementation of these new agreements allowed for a steady stream of installations through Q2 and Q3 2022, resulting in an overall increase in installation volume.

- **Streamlined Customer Journey for Complex Projects:** A separate challenge observed by PG&E was the logistics associated with implementing projects of this complexity in relatively low volumes. The Pilot has numerous variables that impact both the volume of projects and timing to move from one Pilot stage to the next. Some of those variables include timing and

effectiveness of outreach; customer responsiveness; contractor staffing levels; electric service upgrades (when required); supply chain disruptions; leveraging of different programs; multiple parties responsible for different parts of the project journey; and the need for different tradespeople for different parts of the project installation. All these factors create challenges for the PI to manage a seamless, streamlined, and efficient customer journey.

To overcome the challenges, the PA implemented a process adjustment to enhance customer communication and coordination by connecting the CENs direct with PI. This allowed for customer questions and inquiries to be addressed in a timely manner by the PI once the customer was moved to the assessment and installation phase. In addition, customer communications related to project status were increased during periods of delay, and calls were facilitated by the PI with the customer and the PG&E program manager to address process questions and concerns about timing or delays.

Post Installation

The majority of installations completed during the Pilot occurred in this reporting period, with 113 homes completed during this reporting period, for a total of 147 homes treated as of October 31, 2022. Of the 147 homes treated; eight all-electric customers received upgraded energy efficient appliances, 90 customers were fully converted to all electric and 49 customers received one or more appliance upgrades. Table 8 below provides a summary showing the number of Pilot appliances that were installed during this reporting period. Of the completed home assessments and project proposals developed thus far, most participants have expressed a willingness to receive all eligible appliances.

Table 8: Project Measures Installed (November 1, 2021, to October 31, 2022)

Community	# of HH: Completed Projects	Heat Pump Space Heater	Heat Pump Water Heater	High Efficiency Clothes Dryer	Cooking Appliance	Induction	Radiant
Allensworth	35	22	28	28	18	10	8
Cantua Creek	37	29	25	27	21	11	10
Seville	41	34	37	10	29	24	5
Total	**113**	**85**	**90**	**65**	**68**	**45**	**23**

Table 9 below shows the number of eligible appliances that were recommended to residents but which the resident declined to replace during this reporting period.

Table 9: Eligible Appliances Refused by the Resident (November 1, 2021, to October 31, 2022)

Community	HVAC	Water Heater	Clothes Dryer	Cooking Appliance
Allensworth	11	7	3	13
Cantua Creek	6	12	2	13
Seville	4	3	3	10
Total	**21**	**22**	**8**	**36**

As of the end of this reporting period, 14 warranty issues have been reported and resolved with the warranty coverage provided through the program. Below is a breakdown by community:

- Allensworth: 1 Dryer and 1 Range
- Cantua Creek: 8 Dryers
- Seville: 1 Dryer, 2 Ranges, and 1 Range and Dryer (customer had issues with both)

Table 10a and b below provides a summary of the average costs per completed pilot project. In Table 10a the "Other Measures" in the table are inclusive of energy efficiency and weatherization measures not provided by other programs. These may include measures normally offered through the Energy Savings Assistance Program (ESA) if the resident did not qualify for ESA. "Electrical Upgrades" refers to measures such as electrical panel upgrades, subpanel upgrades, and new circuits. Panel upgrades have been necessary for almost all projects. Table 10b provides a view of the externally funded remediation by community and average costs.

Table 10a: Average Cost per Household (Inception to end of reporting period)

Community	Appliances	Other Measures	Pilot Remediation	Electrical	Total
Allensworth	$ 11,994	$ 930	$ 2,192	$ 3,895	**$ 19,011**
Cantua Creek	$ 12,919	$ 2,273	$ 1,143	$ 5,264	**$ 21,599**
Seville	$ 14,053	$ 1,727	$ 1,589	$ 5,388	**$ 22,757**
Total	**$ 13,196**	**$ 1,708**	**$ 1,593**	**$ 4,988**	**$ 21,486**

Table 10a: External Funding Average Cost per Household (Inception to end of reporting period)

Community	# of Projects with External Funding	Total Remediation Funded	Average External Remediation Funded per Household
Allensworth	3	$14,199	$4,733
Cantua Creek	3	$6,999	$2,333
Seville	7	$65,311	$9,330
Total	**13**	**$86,509**	**$5,465**

Customer Journey & Impacts

Although the customer journey from outreach to installation has been lengthy as previously described in the Assessment and Installation section of this report, there has been positive feedback from participants. The PG&E PI was asked to contact a few customers from each pilot community to gather feedback post installation; below is the feedback obtained by the PI from various customers.[10]

S. Hunter (Allensworth)

- Received a dryer, electrical panel upgrade, heat pump water heater, and weatherization services
- *"Before the energy program came to Allensworth, I was unable to dry my clothes, because of my propane dryer was too costly to operate. I feel a lot safer in my home with the new electrical system added and the electric water heater where I never have to worry about running out of propane. The plus to all of this is additional discounts add to my bill. This program really makes a difference in my home and to my budget."*

[10] All customers consented to sharing their name, residing city, and comments in the PG&E 2022 Annual Report.

E. Valencia (Cantua Creek)

- Received HVAC, heat pump water heater, electrical panel upgrade, a dryer, and weatherization services

Ms. Valencia was very happy and very content with the program. She received a new electrical panel, a dryer, an HVAC, and a water heater. She said everything is working very well and she has no complaints. She also received the SGIP battery which she says is very compatible with our program. She was so grateful when they had a power outage in Cantua Creek a little while ago and she did not lose any of the food in her refrigerator.

J. Torres de Rosales (Seville)

- Received HVAC, heat pump water heater, induction range, dryer, electrical panel upgrade, refrigerator, and weatherization services
- Mr. Torres de Rosales's was very happy with the program. He said there are some programs out there that say they will do so much for you and then they do not follow through, but that our program did exactly what we said we would do, and he is so grateful. Since participating in the program, he has noticed the increased efficiency of his appliances and the savings on his electricity bill. Overall, he feels the appliances are much better than what he had before, and everything is working well.

Bill Impacts

The bill impact summary in Table 11 below taken from the PG&E Q3 2022[11] Quarterly Report is based on the 121 homes completed by June 30, 2022, that meet the eligibility criteria for bill impact analysis. Select customers were excluded from the bill impact analysis because their bills contain certain elements that make them inappropriate for analysis. Those exclusions are:

- Customers on a Net Energy Metering (NEM) or Electric Vehicle (EV) Rate
- Customers NOT completed with their home conversions *by the end of Q1 2022*
- Existing All-Electric customers
- Customers without electric usage data during the pre-participation period.

Out of the 121 projects completed by the end of Q2 2022, 18 projects were excluded from the bill impact analysis. This analysis reviewed average monthly electric, gas, propane, and wood costs for Q2 2021 (pre-participation) and Q2 2022 (post-participation). Results of the bill impact analysis show that the average monthly total fuel costs for customers have been reduced after participating in the Pilot. Table 7 below summarizes bill impacts for these 121 customers.

The post-participation costs include the Bill Protection discount and TCSD. Based on Table 11 below, the average monthly electric costs have increased, however the discounts provided through the Pilot assist with offsetting the increased costs.

Table 11: Bill Impact Analysis

Fuel Costs	Pre-Participation Q2 2021	Post-Participation Q2 2022	Change in Fuel Costs
Avg. Monthly Electric Costs	$122.55	$159.58	**$37.03**

[11] Q3 2022 Quarterly Report of Pacific Gas and Electric Company (U 39 M), Attachment A, p. A-4

Avg. Monthly Gas Costs	*n/a*	*n/a*	n/a
Avg. Monthly Propane Costs	$67.87	$2.09	**($65.78)**
Avg. Monthly Wood Costs	$4.55	$0.00	**($4.55)**
Avg. Monthly Fuel Costs	$194.97	$161.67	**($33.30)**

Other Pilot Elements

- **Local Hiring and Workforce Development:** The PI for PG&E's pilot communities is headquartered in Fresno, which is centrally located in the heart of the San Joaquin Valley and within easy reach of the Pilot communities. There have been multiple challenges with hiring and retaining implementation staff. First, though the COVID-19 pandemic negatively impacted many industries, within California most of the technical trades associated with Pilot-related work were considered essential workers and demand for these skilled trades remained high in addition to labor rate increases. The demand for the trade skilled technicians and increased wages impacted the PI's ability to ramp up staffing as implementation progressed. Second, hiring and maintaining contractor staffing levels is dependent on steady, reliable work. Due to process changes previously addressed in the report, installation began increasing which supported a steady pace of work, however the resource demands and increased costs created by the pandemic limited the Third-Party PA/PI's ability to schedule and execute installations at times.

  Table 12 below summarizes PI hiring and staffing changes during this reporting period. This table only represents those staff members that spend most of their work time supporting the pilot.

  Table 12: Local Hiring (November 1, 2021, to October 31, 2022)

Total Pilot Staff: Start of Reporting Period	Existing PI Staff Newly Assigned to Pilot	New Hires Assigned to Pilot	Total # of PI Staff Retained but Reassigned	# of PI Staff No Longer Retained	Total Pilot Staff: End of Reporting Period	# of Staff Living within a SJV DAC*
14	1	6	5	6	20	14

  **Includes any disadvantaged community within the San Joaquin Valley, not strictly the SJV DAC Pilot communities.*

- **Process Evaluation:** The Phase II Pilot Process Evaluation re-commenced in October of 2021 and concluded with a final presentation workshop held October 5, 2022, and a final report issued October 20, 2022[12]. Given the complexity of the implementation and the differences between each of the PA's Pilots the Phase II process evaluation effort examined the various steps and organizations involved in the implementation processes.

- **Regulatory Activity:** The following represents highlights of regulatory activity that took place during the reporting period.

[12] SJV DAC Pilot Projects Process Evaluation Final Report

- **Update to CPUC Commissioner:** Per a request from the CPUC, PG&E along with the other PAs participated in a virtual meeting on March 28, 2022, to provide Commissioner Houck with an update on pilot progress and barriers.
- **Quarterly Report:** Decision (D.) 18-12-015 directed the Joint Utilities to serve and file aggregated, anonymized pre- and post- bill impact data for pilot participants on a quarterly basis. In their June 30, 2020, request, the Joint Utilities requested to extend the deadline to provide the first quarterly reports to January 30, 2021, or until all Pilot Administrators completed, at a minimum, 10 projects each and have a full quarter's worth of data to form the basis of their reports. The Energy Division approved this request on July 28, 2020. Subsequently, the first period to meet the criteria for triggering a quarterly report was Q3 2021 and the first report was due by November 1, 2021[13]. PG&E has complied with all Quarterly Report filings through the reporting period.
- **Santa Nella OII:** Beginning in May of 2022 the PG&E SJV DAC Pilot program team participated in numerous meetings with CPUC Energy Division (ED) staff regarding adding the Santa Nella sub-division to the SJV DAC Pilot Program. On September 21, 2022, the CPUC issued an Order Instituting Investigation (OII)[14] to address the potential loss of natural gas service for a portion of the Santa Nella community. A proposed option to add the Santa Nella sub-division to the SJV DAC Pilot program was provided in the OII response filed on October 21, 2022[15].

Leveraged Programs

PG&E and its Pilot implementation partners (CPM, Third-Party PA/PI, and PG&E PI) worked together to leverage several existing and emerging programs to provide additional energy cost saving opportunities to eligible residents consistent with D.18-12-015.

Below, PG&E briefly addresses leveraging and coordination activity for these programs. This section is organized based on the type of program (discount vs installation) and the method by which the program has been incorporated into the pilot.

Table 13 below provides a summary of leveraged program enrollments and or referrals during this reporting period.

[14] Santa Nella Natural Gas Service OII
[15] PG&E response to the OII

Table 13: Leveraged Programs[16] (November 1, 2021, to October 31, 2022)

Leveraged Program	Pilot Procedure for Leveraging	Allensworth	Cantua Creek	Seville	Total
CARE	Enrollment	24	34	46	**104**
FERA	Enrollment	0	0	1	**1**
Medical Baseline	Enrollment	1	1	5	**7**
DAC-GT	Enrollment	22	29	37	**88**
CS-GT	Enrollment	0	0	0	**0**
TCSD	Enrollment	11	9	6	**26**
ESA	Referral	16	19	11	**46**
SGIP	Referral	10	8	10	**28**
WatterSaver	Referral	3	5	1	**9**
DAC-SASH	Referral	3	1	2	**6**

Discount/Bill Programs:

PG&E has categorized our leveraged discount and bill programs into two groups based on who is responsible for enrollments. Group A includes those for which the CENs directly assist residents with enrollment. Group B includes those that are enrolled directly by PG&E without the need for CEN intervention.

Group A: CEN-Supported Billing Programs

Programs within Group A include CARE, FERA, and Medical Baseline. As part of the pilot application process, CENs were to promote CARE, FERA, and Medical Baseline and assist eligible PG&E customers with submitting the appropriate applications for which the customer may qualify. According to feedback from the CENs, most eligible customers appeared to have been already enrolled in these programs. There have also been some instances of customers voluntarily declining to enroll despite being eligible to do so, but this has been an uncommon occurrence.

Group B: PG&E Independent Enrollment Programs

Programs within Group B include Green Saver (also referred to as Disadvantaged Community Green Tariff, or DAC-GT), Local Green Saver (also referred to as Community Solar Green Tariff, or CS-GT), and Transitional Community Solar Discount (TCSD). Though each of these discount programs have unique eligibility requirements, they do not require a formal application by residents. Subsequently, eligible residents are identified by PG&E and then enrolled in the applicable programs without an additional application.

Installation Programs:

In contrast to discount and bill programs, which are directly applied to a customer's PG&E bill, installation programs are those that provide or incentivize the installation of equipment in the participant's home. Because of the technical complexity of some of the program offerings, some of these programs are integrated directly into PG&E's Pilot process whereas others are leveraged indirectly through a coordinated referral to the applicable program administrator or installation contractor. Consequently, the installation programs are also categorized into two groups based on whether the leveraged program is fully integrated in the pilot or is leveraged using a referral process. The CENs are responsible for the initial promotion and education of all leveraged programs to pilot participants, but they do not provide enrollment assistance for these programs.

[16] Local Green Saver (CS-GT) Program is not yet available to pilot community residents.

Group A: Integrated Installation Programs

The PI's subcontracted installation vendor is an existing qualified installation contractor for the ESA Program and is likewise a participating contractor for the WatterSaver Program. In addition, the PI is a qualified developer for the Self-Generation Incentive Program (SGIP). As a result, PG&E has combined the home assessment and installation visits of these leveraged programs with those of the Pilot with the intent to minimize the number of visits needed to take advantage of these programs. Measures from each program are funded through their respective budgets and achievements are counted only through the program providing the funding.

Group B: Warm-Referral Programs

Disadvantaged Communities Single-Family Affordable Solar Homes (DAC-SASH) Program:
In the case of the Disadvantaged Communities Single-Family Affordable Solar Homes (DAC-SASH) Program, fully integrating installation of rooftop solar into the Pilot process was not feasible. However, PG&E collaborated with the PI and the administrator of DAC-SASH (GRID Alternatives) to develop a "warm referral" process. As a result of this collaboration, the PI performs a cursory home evaluation and documents basic structural conditions that may impact feasibility of DAC-SASH participation, and then passes on this information as a "warm referral" to GRID Alternatives. GRID Alternatives then contacts the resident directly to schedule an in-depth assessment with the resident and to solicit participation. These are considered "warm referrals" because the residents will have already received some education on DAC-SASH from the CEN and/or PI and GRID Alternatives will also be receiving basic information on the home from the PI to inform feasibility of participation.

To leverage the DAC-SASH Program for pilot participants, the address and zip code of the resident must fall within the funding map for the DAC-SASH Program. Allensworth and Cantua Creek both fall within geographically eligible locations for DAC-SASH, but Seville does not.

Interest in DAC-SASH among Pilot participants has been very low. Many residents have expressed a mistrust of solar programs because of poor past experiences with other solar vendors that have come through the area.

Lessons Learned

Below is a comprehensive summary of lessons learned to date from across key areas of the Pilot. Some learnings that were evident early in the Pilot and detailed in prior annual reporting are included here, with additional context, along with new learnings from this reporting period. The bold sections are the proposed solutions implemented and or design solutions for future programs based on SJV DAC Pilot experience throughout the program period to date. PG&E looks forward to applying these learnings to inform future electrification program design, particularly in rural disadvantaged communities.

Learnings related to Outreach and Enrollment

Utilize a Community-by-Community Approach for Outreach and Enrollment to Support Assessments and Installations: A targeted enrollment, assessment and installation strategy by community would streamline the assessment and installation process rather than a staggered approach. Initially the CPM adopted a scattered approach trying to reach as many potential participants as possible rather than a staged community-by-community approach. This approach heavily impacted the timing of assessments

and installation impacting resources to accommodate multiple crews in every community simultaneously and delivery delays on appliances due to suppliers' requirements of minimum deliveries. This scattered approach also contributed to the CEN budget exhaustion as CENs were incurring costs of multiple visits to these rural communities.

In-Person Outreach May be More Effective; a Virtual Outreach and Enrollment Plan Should be Implemented as a Backup: The CPM originally planned on outreach being conducted primarily through in-person tactics such as community meetings and door-to-door outreach. However, in-person strategies were not always feasible due to the COVID-19 pandemic, forcing a hybrid approach that relied on a mixture of virtual and in-person tactics such as phone outreach and door-to-door outreach. Though we do not have data to compare the effectiveness of virtual vs in-person tactics, the CENs indicated that virtual strategies were less effective, in part because residents were more skeptical over the phone than when speaking to the residents on their doorstep.

In addition, because the COVID-19 pandemic was unforeseen, it highlighted the need to have back-up plans formulated and ready for outreach, enrollment, and implementation. As new programs are designed and implemented new processes and tactics need to be developed for a virtual approach such as development of phone scripts, online application system, and educational materials, making available e-signing and photo upload for signed applications and to obtain copies of required documents.

Employ Local Residents and Local CBOs for Community Outreach and Engagement Roles: The CEN model was driven by an understanding that residents would be more likely to participate in the pilot when approached by someone from their community who they know and trust. Subsequently, the intention was to employ local leaders, influencers, and community members to fill the CEN roles. In practice, this model was only partially employed, with some CEN roles filled by pilot community residents and others filled by CPM staff that were unfamiliar to the community members. Feedback from CENs suggests that when residents were approached by people known to them, the residents were much more willing to listen and more likely to enroll. But when residents were approached by CENs who were unfamiliar or not from the community, the CENs found less success. The magnitude of variance between using familiar vs unfamiliar people in the CEN roles is unclear. However, this anecdotal feedback is offered to point out that the effectiveness of the model is at least partially dependent upon how it is executed in practice.

Appliance Demonstrations were Helpful for Some Customer Conversions, but May Not be Necessary: Even though group appliance demonstrations were not employed until over a year into pilot implementation, based on the acceptance of most project proposals through the reporting period, it appears that the lack of an appliance demonstration did not deter most applicants from electrifying all, or nearly all, of their appliances.

Based on anecdotal feedback, there were a handful of residents who felt more comfortable with converting to an electric cooking appliance after having seen the appliance demonstration of the portable induction stove at community meetings in Q3 2021. Others who took advantage of the portable induction stove loan offering also felt more comfortable with replacing their propane stoves after using the portable stove in their own home. But nearly all pilot participants with a completed project in the reporting period agreed to replace their propane stoves with electric ones without having seen an appliance demonstration and without having used the portable stoves. This indicates that the appliance demonstration for cooking appliances and the portable induction stove loaner offering may

have been helpful to increase residents' comfort level but was generally not necessary to convince most residents to convert from propane to an electric cooking appliance.

It should be noted, however, that approximately half of *non-participants* did not provide a reason for their decision not to participate. As noted earlier in this report, there were also a handful of non-participants who did indicate a preference to keep their existing appliances. Therefore, it is unclear whether appliance demonstrations would have helped persuade some non-participants to enroll.

Learnings related to Program Design and Implementation

Program Administrators Managing Outreach, Engagement, and Enrollment may be Optimal: Utilizing a CPM model and placing a single community-based organization (CBO) vendor as the manager for all outreach, engagement and enrollment activities across all Pilot communities has benefits and drawbacks. On the positive side, it can foster greater consistency in the messaging and performance of outreach, engagement, and enrollment activities across all pilots. However, this model can stall activities when direction needs to funnel from the PA to the CPM before direction can be given to CEN. Mid-way through the outreach and engagement PG&E requested to work directly with the CENs to coordinate the strategy and execution of outreach and enrollment. This adjustment to the process resulted in a steady stream of enrollments and assisted the PI with getting assessments scheduled in a shorter period. Additionally, throughout the Pilot program the PAs discovered a risk in that the CPM lacked the resources and skillset needed to support the reporting and data capture needs of the program.

Separate Outreach and Enrollment Roles between the CEN and PIs: The process of sending completed applications from the CENs to the PI was administratively burdensome and at times created a backlog of applications getting from the CEN system to the PI for scheduling of the assessments. In addition, the CENs are often contacted by participants for updates on their installations which required the PA and PI to consistently provide detailed updates back to the CEN. This activity caused additional administrative burden, redundancy, and at times miscommunication with the participant. For future success it is recommended that a CEN / CBO take lead on community outreach and engagement while allowing the PI to take lead on enrollment, creating a streamlined approach from enrollment to installation, while still leveraging the expertise the CEN provides.

Data Sharing Agreements Can Improve Efficiency and Customer Experience: The CENs experienced challenges collecting utility account information directly from customers because many residents did not know their account number, where to find it, and/or did not have a copy of their utility bill readily available. To alleviate this issue, PG&E entered a zero-dollar, direct contract with the CPM that provided a legal basis to provide customer information to the CPM, and the CPM was required to meet PG&E's strict requirements for protecting customer information. With these agreements in place, PG&E was able to provide the CPM with a list of all pilot-eligible residents so the CENs could populate their account numbers in the pilot applications without needing to collect this information directly from applicants, thus eliminating a potential point of frustration for residents applying to participate.

Key Performance Indicators (KPIs) Should be Established at the Onset of a Contract: One of the primary lessons identified in the 2020 Annual Report was that clear Key Performance Indicators (KPIs) are necessary and a best practice to establish at the beginning of any contractual relationship to ensure clarity on expectations of roles and outcomes. Though KPIs were eventually agreed to and applied to the

CPM, the effectiveness of these KPIs was diminished substantially by their late introduction and application.

Shared Processes Between an IOU and a Third-Party Administrator May Complicate Assessment of PA's Performance: Through separate, independent competitive solicitations, the same vendor was selected as both PG&E's PI and as the Third-Party PA/PI – Richard Heath and Associates, Inc. (RHA). While planning and collaborating on implementation processes, PG&E and RHA agreed to leverage several PG&E processes to maximize efficiencies, minimize costs, and avoid confusion among the staff and subcontractors who would be supporting both pilots. Some examples include:

- Use of PG&E's Central Inspection Program to inspect project installations
- Use of PG&E's bulk supplier for installation materials
- Use of PG&E staff to create Energy Impact Statements (i.e., bill impact estimates) for applicants in both pilots
- Use of PG&E staff to track details of electric service upgrade projects across both pilots
- Use of PG&E staff to contact and arrange meetings with local building permit departments

The cost and process efficiencies from taking this shared approach have been positive and welcomed. In retrospect, however, such an approach resulted in PG&E taking on activities that normally each administrator would have been independently responsible for. The blurring of responsibilities in these examples may make it more challenging for the CPUC to assess the success of a Third-Party Administrator fully and accurately.

Learnings related to Electrical Service Upgrades and Permitting

Electrical Service Upgrades will result in added electric load when converting appliances from non-electric fuel to electric fuel requiring the utility to perform an assessment to determine if service upgrades are needed prior to installing the new appliances. If the existing utility equipment didn't have sufficient electric load capacity, that equipment required service upgrades to ensure sufficient power would be safely provided to the home and to prevent equipment failure.

There are multiple learnings associated with this process:

- **Account for Variable Timing and Complexity of Projects:** PG&E is not able to preemptively determine which homes will need electric service upgrades. Therefore, every project expected to add new electric loads must be assessed by PG&E to determine if service upgrades are needed. That determination then impacts how quickly a project will be able to move forward with appliance installations. PG&E categorized the outcomes into four categories based on the subsequent utility work to be performed and the associated timing required to complete that work:
    1. Projects that can immediately proceed with pilot project installations.
    2. Projects that do not need electric service upgrades but do require an electric panel upgrade. This means the utility will need to coordinate with the PI to shut off the power while the PI upgrades the panel, then return the same day to restore power and energize the new panel.

3. Projects requiring *overhead* electric service upgrades.

4. Projects require *underground* electric service upgrades.

The critical distinction between the latter two categories is that underground service typically requires trenching work which costs more and takes longer. While projects that need a panel upgrade may take a few weeks (depending upon both PG&E and PI scheduling availability), electric service upgrades may take a few months.

Without knowing in advance which category, a project will fall into, it is difficult to forecast when electrification projects will be installed. This is one of the timing variables referenced in the Local Hiring and Workforce Development section of this report that is challenging for implementation models that are dependent upon steady, reliable volume of work to keep pilot staff fully employed. Therefore, barring a means of predetermining which projects will need electric service upgrades, future program design for electrification programs should consider this timing variability.

- **Batch New Electric Load Applications by Geographic Areas to Reduce Inefficiencies with Electrical Service Upgrade Work:** As a customer-driven program, the location and timing of pilot enrollments varied widely within and across pilot communities. As mentioned in the Lessons related to Outreach and Enrollment, it was not uncommon for multiple households on the same street to enroll in the pilot many months apart. That creates the potential for unintended inefficiencies in electric service upgrade work. When a lengthy period passes between the application submissions of multiple residents tied to the same utility equipment, it may require re-work due to the need to reassess, redesign, and in some cases, re-upgrade the utility equipment with the new additional project(s) in mind. This rework creates inefficiencies, and adds costs/delays to projects.

  Future program administrators and implementers should be aware of this dynamic and design programs in such a way as to minimize potential inefficiencies that result from an open-ended, scattershot outreach approach. Insofar as it is feasible to do so, it is recommended to take a *micro-geographic*, staged approach to outreach – focusing on completing all enrollments in a very small geographical area within a small defined window of time before moving on to another area – so that all service applications tied to the same utility equipment can be assessed together and subsequent work associated with any necessary electric service upgrades only needs to be performed once with all new electric loads in mind.

- **Contractors and Customers Should Receive Education and Training on Requirements for Service Upgrade Assessment Application Documentation:** The time needed for PG&E to determine if service upgrades will be required for a project has many facets including calculation of the existing and added load. The service upgrade needs-assessment is dependent in part upon whether all required information and documents have been submitted to PG&E with a service application. Required documentation includes electric load information for the new appliances and specific pictures pertaining to the area around the electric panel, electric meter, and service drop. PG&E cannot

complete an accurate assessment to determine service upgrade needs without all required documentation and pictures. Therefore, it is critical that customers and/or contractors are educated on the requisite documentation needed when submitting a service application for new electric loads that will be added to a home/building.

- **Future Electrification Programs Should Incorporate Education for Participants on Requirements for Unobstructed Workspaces and a Funding Mechanism to Address Issues:** Part of reviewing a service application includes determining whether there is sufficient clearance and working space around the electric meter and service drop coming to the home. In the pilot it has not been uncommon to discover obstructions that needed to be cleared before PG&E could complete its application review and/or perform needed work. Examples include tree branches around the service drop wire and numerous instances of vegetation, appliances, clutter, water faucets and sprinkler valves directly under or in front of the meter. Such obstructions must be removed or relocated. These types of issues were resolved in the pilot by the PI using remediation funding but should be accounted for in any future program design for electrification projects. For more details about the technical requirements of clearances and working space, see PG&E's Greenbook located on PG&E's public website.[17]

- **PG&E may Bill Customers for Costs for Electrical Service Upgrades; these Costs were Covered in the Pilot but may be a Barrier for Future Electrification:** When electric service upgrades are needed PG&E designs the work to be performed and estimates the cost. Though there are scenarios in which there are no direct costs to the end-use customer, in many cases costs can be billed to the end-use customer and range from hundreds to thousands of dollars. The costs are site-specific and vary considerably from one project to another based on several factors such as what equipment needs to be upgraded, whether the electrical service is overhead or underground, the distance of the home from the utility equipment, etc.

  In the pilot, those costs normally billed to the end-use customer are instead paid for through the pilot implementation budget to ensure pilot applicants can participate with zero out-of-pocket costs. But outside the pilot where these costs are billed directly to the end-use customer, this may be an insurmountable barrier to customers who might otherwise consider building or transportation electrification at their home.

Obtaining Permits for Installations on Mobile Homes Requires a Certificate of Title; the Pilot Developed a Solution with HCD to Overcome this Challenge: Building permits for mobile homes that do not have a permanent foundation must be obtained through HCD. The permit application includes a requirement to provide information that is typically found on a mobile home certificate of title such as make and model, serial number, etc. However, most mobile-home owners in the PG&E pilot communities did not have a certificate of title and many were not familiar with what a certificate of title is. After meeting with representatives of HCD, they expressed a willingness to forego this information if it was noted within the permit application that the project is part of the

[17] https://www.pge.com/en_US/large-business/services/building-and-renovation/greenbook-manual-online/greenbook-manual-online.page: see Sections 4.4-4.7 and 5.4.3-5.4.4.

SJV DAC Pilot. Though this has resolved the issue of obtaining a certificate of title for pilot projects, it can be foreseen that this may remain a challenge for future programs and projects that require building permits for mobile home projects.

Learnings related to Leveraging Multiple Programs

Reduce Customer Confusion by Providing High-Level, Leave-Behind Collateral on Complementary Programs, and Stagger the Timing in Introducing Multiple Programs to Pilot Participants: The CEN scope of work includes marketing and educating residents on complementary programs that can be leveraged with the pilot during the pilot enrollment process. PG&E and the other PAs provided training to the CENs prior to the start of outreach activities. However, early feedback from some CENs indicated that educating residents on all the complementary programs significantly lengthened the time needed to cover all topics while also completing the pilot application. Thus, the time commitment for comprehensive program education became a burden to residents.

Likewise, some CENs also expressed that introducing so many programs at once sometimes generated more skepticism on the part of the resident, leading some to believe that so many offerings at no cost were too good to be true. This led some CENs to initially minimize leveraged program marketing and education for a time. Ultimately, in collaboration with the PA/PI and PG&E, the CPM modified the CENs' approach in PG&E and PA/PI pilot communities by creating a leave-behind flyer with basic information on the complementary programs for the resident and focusing CEN leveraged-program education primarily on bill discount enrollments such as CARE, FERA and Medical Baseline programs. Installation programs such as ESA, SGIP, and WatterSaver were instead reviewed in greater detail by the PI during the assessment and proposal review stages.

In a Program Application, Include Customer Consent Language to Share their Data with Complementary Programs: In anticipation of the need to share customer referrals with the administrators or implementers of leveraged programs, and to ensure the PAs and PIs are compliant with California customer privacy laws, the pilot application included a clause wherein the applicant consents to allowing the PAs, PIs, and/or CPM to share their information with other programs that can benefit the applicant. This up-front consent has been instrumental in creating a more seamless referral process without the need for additional forms, particularly across separate administrators such as in the case of DAC-SASH.

Minimize Impacts to Customers to Participate in Multiple Programs by Combining In-Home Program Assessments: To help reduce the number of customer visits, PG&E and the PI combined multiple home assessments into one visit by having the PI collect the needed information for most leveraged programs during the pilot assessment appointment. In addition, PG&E and the PI collaborated with GRID Alternatives as the administrator of the DAC-SASH Program to agree upon basic, easily observable information that could be collected by the PI during the pilot assessment and later shared with GRID Alternatives as part of a warm referral. This did not eliminate the need for a more technical visit by GRID Alternatives later but helped them to identify critical barriers up front.

By combining the program assessments of multiple programs into a single visit, PG&E was able to reduce customer visits overall. The key was coordinating with the leveraged programs to identify

the appropriate information to be collected during the pilot assessment and ensuring that the pilot assessor was trained to collect the needed information.

To the Extent Possible, Coordinate On-site Installation Work Across Multiple Programs to Reduce Customer Impact: Implementing concurrent installations from multiple programs proved more difficult than combining home assessments from multiple programs. The program offerings between the pilot and leveraged programs required different crews specializing in a wide range of trades and products including electrical, HVAC, plumbing, carpentry, weatherization, roof-top solar, battery storage, and more. This creates inherent challenges with forming a single crew, or even identifying a single organization, that can perform all the installation work needed across such a wide variety of programs and measure offerings.

An alternative is to coordinate overlapping installation visits of the various crews that may be needed such that multiple installations can occur on the same day to minimize customer visits. This is likewise logistically challenging, especially when the installation crews are from different organizations. PG&E believes a hybrid approach is likely to be the most successful – cross-training crews to maximize installations that can be performed with a single crew and coordinating concurrent installation visits amongst multiple crews when necessary. This type of approach will require concerted and deliberate collaboration both amongst a contractor's internal crews, as well as with contractors for leveraged programs.

Conclusion

The SJV DAC Pilot remains to be a unique and complex program that introduces methods, offerings and program requirements that have required all parties to think differently, be nimble, and implement in ways not previously tested. Throughout the Pilot, the CPM, CENs, PI, and PG&E have all faced various challenges to program delivery, which continue to be addressed so that participants in disadvantaged communities can realize the benefits of lower energy costs and electrification. In this reporting period, PG&E and its program partners demonstrated rigorous collaboration and a commitment to problem-solving, which resulted in the most successful outcomes to date in the pilot, with 111 projects completed, verses 36 projects completed in the prior annual reporting period. The Pilot efforts to date have led to many valuable learnings and insights that should be utilized to inform current and future efforts to serve disadvantaged communities in the San Joaquin Valley and beyond.